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New Haven YMCA

Junior College

1946 - 1947

Administrative Offices

Winchester Hall	15 Prospect Street
New Haven 11, Conn.	Telephone 7-3131, Ext. 532

Office Hours

Monday, Wednesday, and Friday

9 A.M. to 5 P.M. and 7 P.M. to 10 P.M.

Tuesday and Thursday

9 A.M. to 5 P.M.

Saturday

9 A.M. to 1 P.M.

NEW HAVEN COLLEGE
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New Haven YMCA Junior College



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1946-1947

New Haven, Connecticut



Member of

American Association of Junior Colleges
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Connecticut Conference of Junior Colleges
New England Junior College Council

Accredited by

Connecticut State Department of Education

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Calendar 1946-1947

Fall Semester

Placement Examinations		1946 July 17 & 19 August 21 & 23 September 4 & 6 September 17
Registration period closes	Tuesday	
Last day for registration of NEW students		
Last day for present students to submit registration forms		
Placement Examinations		September 18 & 20
Last day for payment of tuition	Monday	September 30
Equivalency Examinations		September 30 & October 2
Assembly	Friday	October 4
Classes begin	Monday	October 7
Christmas Recess		December 21 - January 5 1947
Classes resume	Monday	January 6
Final Examinations begin	Monday	January 27
Final Examinations end	Friday	January 31
Recess		February 2 - 16

Spring Semester

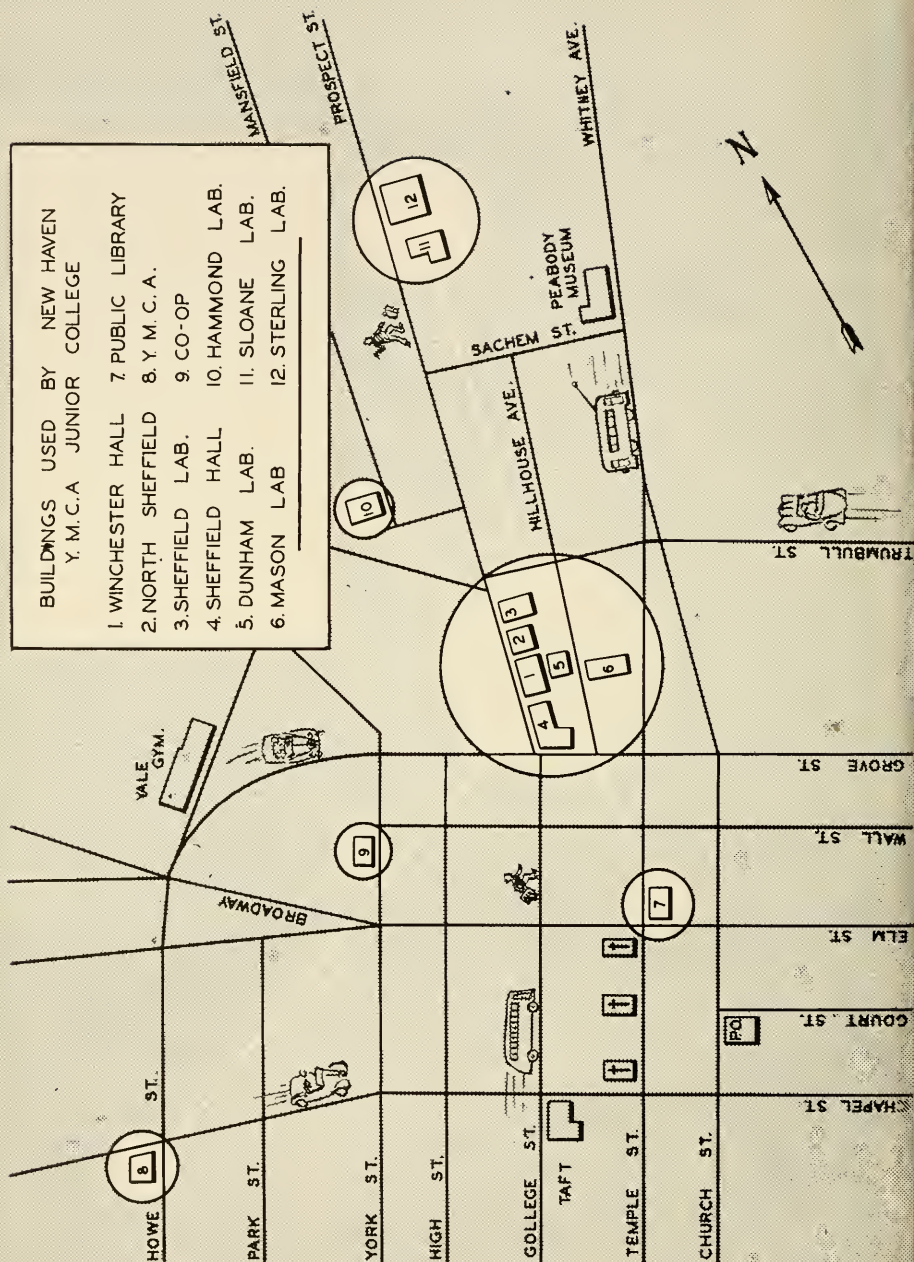
Registration period closes	Saturday	February 1
Last day for registration of NEW students		
Last day for present students to submit registration forms		
Placement Examinations		February 3 & 5
Last day for payment of tuition	Monday	February 10
Assembly (for new students)	Friday	February 14
Classes begin	Monday	February 17
Good Friday—holiday	Friday	April 4
Spring Recess		April 26 - May 8
Classes resume	Friday	May 9
Memorial Day—holiday	Friday	May 30
Final Examinations begin	Wednesday	June 11
Final Examinations end	Monday	June 16

Summer Semester

Registration period closes	Monday	June 23
Last day for registration of NEW students		
Last day for present students to submit registration forms		
Placement Examinations		June 25 & 27
Last day for payment of tuition	Wednesday	July 2
Classes begin	Monday	July 7
Labor Day—holiday	Monday	September 1
Final Examinations	Monday	September 15

BUILDINGS USED BY NEW HAVEN
Y. M. C. A JUNIOR COLLEGE

1. WINCHESTER HALL
2. NORTH SHEFFIELD
3. SHEFFIELD LAB.
4. SHEFFIELD HALL
5. DUNHAM LAB.
6. MASON LAB
7. PUBLIC LIBRARY
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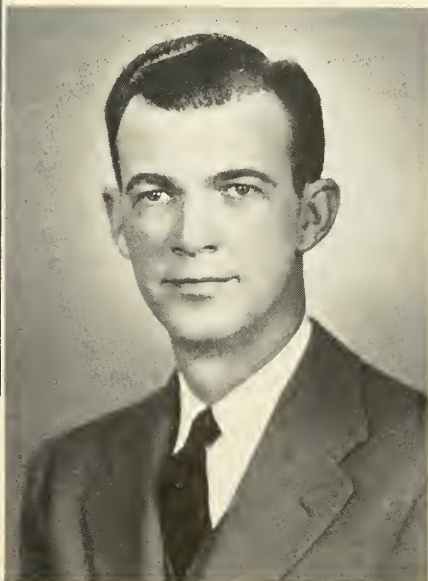
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Director of Instruction



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 Sales Managers Guild
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 M.A., Yale University
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 Assistant Treasurer, J. A. Otterbein Company
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 E.E., Brooklyn Polytechnic Institute; Ph.D., Yale University;
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Tool Designing, Farrel-Birmingham Company
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Registrar



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- WAIBLER, PAUL J. *Mechanics*
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 Yale University
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 Connecticut; Member of American Institute of Accountants; Public Accountant
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 Yale University



HAROLD L. SCHAUGHENCY
Industrial Coordinator; Chairman,
Department of Personnel Supervision



Winchester Hall, Yale University — where the Administrative Offices

New Haven YMCA Junior College



History of the College—New Haven YMCA Junior College reached its twenty-fifth birthday in 1945, its present status and organization being the result of several stages of growth. The seed of the present institution was planted shortly after World War I when the New Haven YMCA organized a series of vocational courses to aid in the rehabilitation of returning veterans of that war. This work grew to such proportions that in 1920 it was organized as a branch of Northeastern University. The association with that University continued until 1926, when the College was incorporated as an independent educational institution known as New Haven College.

Nine years later, in 1935, the College was accredited by legislative act of the State of Connecticut and its name was changed to New Haven YMCA Junior College. Under this name it has continued to function until the present.

From October 1940 until July 1945 the College, in addition to its regular program, carried the responsibility for the administration of special war training courses in coöperation with Yale University. These courses, successively offered under the Engineering Defense Training; Engineering, Science and Management Defense Training, and Engineering, Science and Management War Training programs were sponsored by the United States Office of Education to provide education at the collegiate level to meet specific war needs. Following V-E Day this program was discontinued, but the experience gained by the College in adult education through these programs has provided an additional step in its growth.

July 1944 brought the enrollment of the first veteran of World War II, and since that time the number of veterans has steadily increased until they constituted nearly two thirds of the student enrollment by the spring of 1946. The New Haven YMCA Junior College is once again fulfilling its original function—but in a larger and more comprehensive scope than in 1920.

Purposes of the College—Educating employed men and women is the major purpose of New Haven YMCA Junior College. This has been the principal objective of the College during the quarter of a century of its existence. Relationships with Yale University are based upon a mutual realization of this goal; it is for this purpose that YMCA funds, drawn from the Community Chest and other sources, are granted to the College.

Specifically, the objectives of the College are:

1. To provide education at the college level appropriate for employed persons.
2. To coördinate the college program with the needs of employed men and women through the development of the Work-Study Program when possible.
3. To serve special community needs for education compatible with the first two objectives.
4. To attempt to achieve the maximum development of the individual through guidance, counseling, testing and placement.
5. To attempt to achieve the maximum effective development of part-time education through advisory service to business and industry regarding training programs and college offerings.

Work-Study Point of View — Recognizing that education, in the broadest sense of the word, is a process confined not alone to the classroom, the program of evening instruction provided by the College takes notice of a student's job as well as his instructional experiences.

The College believes that work is good educational experience, but that when work experience is related to academic instruction it is better. It, therefore, contends that a student's work experiences and academic experiences should be integrated as much as is possible and feasible. It sees this integration as a means whereby the traditional barrier between the academic and the practical may be broken down. To this end the College has developed a point of view which is frequently referred to as Work-Study.

In accordance with the Work-Study point of view, the College encourages and assists its students either to seek employment which is related to their programs of study, or to pursue programs of study which are related to their present or contemplated work. This the College does because it regards the student's job as a laboratory where he may apply the knowledge he gains at the College, or from which he receives practical incentives for study in the classroom. The needs and desires of the individual student are the first consideration, however, and should the individual choose to engage in non-related work and study he may do so.

The placement activity of the College, described elsewhere in this bulletin, is designed primarily to implement the Work-Study idea; that is, to assist student employees to arrange an integrated program of related work and study.

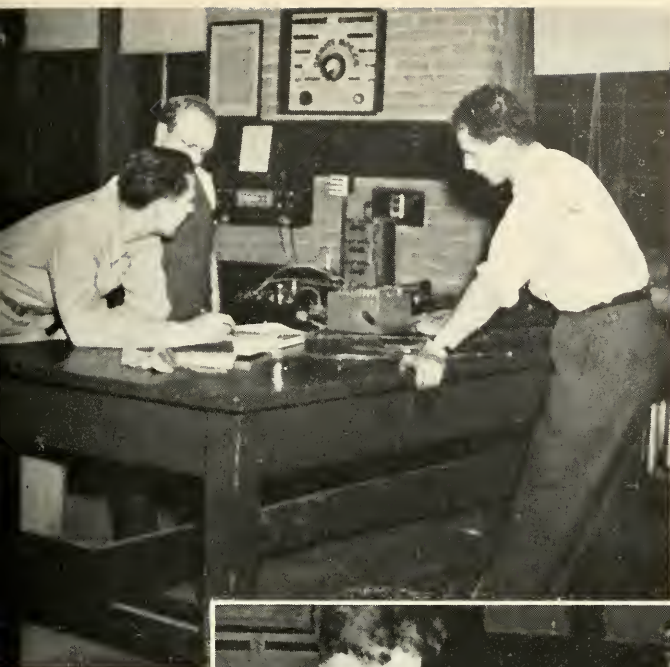
Cooperation with Yale University — The College has important relations with Yale University, even though it is a separate corporation and entitled to grant the Associate in Science degree in its own right.

Yale provides office space, classrooms, laboratories, and the facilities of certain special library collections. College classes are held in the various buildings of Yale University including: Winchester Hall, Sheffield Hall, North Sheffield Hall, Sheffield Laboratory of Engineering Mechanics, Dunham Laboratory of Electrical Engineering, Mason Mechanical Engineering Laboratory, Hammond Metallurgical Laboratory and Sterling Chemistry Laboratory.

The College maintains a reference library, but students also have access to certain technical libraries of Yale University, such as the School of Engineering Library and the Library of Applied Economics and Industrial Administration.

The College has also been able to draw upon the Yale faculty. Many courses are taught by members of the Yale staff. It has also been possible to utilize the University faculty for advisory work regarding courses and the organization of programs of study. Finally, some of the College curricula are under the chairmanship of Yale faculty members.

Cooperation with Business and Industry — In order to facilitate the integration of work and study, the College attempts to develop a pattern of coöperation with the employers represented by the student group. Each employer is encouraged to appoint a Work-Study coördinator who functions as a liaison officer between the College and the employer in matters concerning the student-employee. The coördinator may be expected to assist the College in selecting students and in planning



Working on an
Electronics Problem



Studying
Machine Design

student study programs. He may provide counseling service on the job, arrange for adapting working hours to facilitate the student's study, assist the student in obtaining more nearly related work, or he may develop in-service training programs which are coöordinated with College study. The exact nature of his responsibilities varies from company to company, for no set pattern of coördination is prescribed. It is the company coöordinator with whom the College deals in matters requiring the coöperative efforts of the College and the employer. To the coördinator are sent periodic reports of the student's progress in his studies, unless the student has requested that such reports be withheld.

Many companies have established scholarship funds covering all or part of the tuition of student-employees. Some scholarships also cover the cost of books, fees, and transportation.

Employee Training Agreements—A group of coöperating companies are now contributing financially to the development program of the College through five-year *Employee Training Agreements*. The purposes of this development program are:

I. Course and program development.

1. Special courses developed to meet the specific needs of one or more companies.
2. New programs of a long-term nature.
3. Reorganization and adaptation of present programs.

II. Special work with student-employees.

1. Placement service to the company and the student.
2. Selection of trainees.
3. Counseling with student-employees.
4. Coöperative planning and coördination of work and study.

New course developments must, of course, be held for a time to a point where they can be handled adequately. Therefore, it is the policy of the College to give *priority* to student-employees of companies coöperating under Employee Training Agreements in entrance to courses of the development program: (1) for as long as is necessary to take care of qualified applicants from these coöperating companies, (2) provided such limitation is consistent with good educational practice for any given course, and (3) for as long as it is necessary to complete the development work involved in the course.



First-Year Class
in Accounting

Programs of Study



The College offers the Associate in Science degree in each of the following programs:

1. Division of Business—Business Administration, Public Accounting, Industrial Accounting, Office Supervision and Management, and Sales and Marketing.
2. Division of Engineering—Electrical Communication, Electrical Power, Mechanical Design, Tool Design, Metallic Materials, Non-Metallic Materials, and Plating Engineering.
3. Division of Management—Personnel Supervision, Industrial Administration, and Industrial Safety.

Graduation Requirements—The degree is granted on the basis of the successful completion of sixty semester hours of study in one of the specified programs, and upon the recommendation of the faculty. At least one year of study must be completed in the College, irrespective of the amount of credit earned in other institutions.

Each of the programs has been planned so that a student may earn his degree within either three or four calendar years, if he carries the maximum schedule of subjects each year. Specific outlines for each program for either the three or four year sequence are to be found on pages 33 to 50.

Four Year Program—The four year program provides for carrying three subjects each school term: October to June—with a summer vacation. Through this program fifteen semester hours credit may be earned each year, and the degree may be earned in a period of four years.

Three Year Program—The three year program provides for carrying three subjects each college term from October to June—a total of fifteen semester hours credit for the regular term. During a ten-week summer semester the three year student may earn five additional semester hours credit, thus earning a total of twenty semester hours credit within a calendar year. In this way he may complete his program and earn his degree in three calendar years. The College, however, reserves the right to withdraw courses planned for summer terms when there is not sufficient enrollment to justify giving them. If such a required course should not be offered, a student's program may be extended to four years.

Irregular Program—Students may find it necessary to carry less than the full schedule of subjects. Such students may still be candidates for a degree, but will, by virtue of carrying less than the planned program, extend the number of years required to earn the degree. Since the programs have in many cases been set up in a planned sequence, students who carry less than the full program should anticipate specific prerequisites for courses in order to avoid unnecessary delay in their programs.

Candidates for a degree who take preparatory work as a result of placement examinations will have their programs extended beyond the usual time required for the degree.



**Student Engineers
Learn to Use the
Slide Rule**

Non-Degree Students — Students who do not wish to be candidates for the Associate in Science degree but who meet the regular admission requirements of the College may register for courses of their choice, provided that they are able to give evidence of their preparation for the courses selected. Such evidence may be given by means of transfer credit, or by either a crediting or qualifying examination. These examinations are described elsewhere in the catalog. Non-degree students are expected to attain the same academic standards as degree students and to pay the same tuition and other fees.

Special Courses — From time to time special courses may be offered to meet the educational needs of certain students. These courses may or may not be part of the regular curriculum of the College. They may vary from pre-college to graduate level courses, and admission requirements will vary accordingly.

Non-degree students or students enrolled in special courses may matriculate as candidates for a degree at any time provided they meet the admission requirements for the curriculum of their choice.

Admission Requirements

Three criteria are utilized in determining a student's eligibility for admission to the College. These are: (1) a personal interview with a member of the staff, (2) an evaluation of the student's previous educational record, and (3) an evaluation of the admission examinations.

Although the College prescribes no set pattern of high school subjects as an entrance requirement, the following outlines of high school subjects are suggested as desirable:

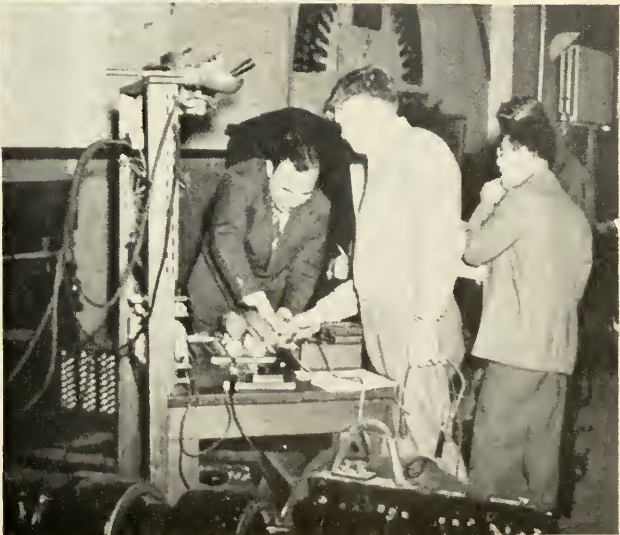
For admission to the Division of Business	For admission to the Division of Engineering	For admission to the Division of Management*
English 3 units	English 3 units	English 3 units
History & Social Science 2 units	Algebra 2 units	Algebra 1 unit
Mathematics 1 unit	Geometry 1 unit	Geometry 1 unit
Additional academic subjects, not less than 4 units	Physics or Chemistry 1 unit	Additional academic subjects, not less than 5 units
Vocational subjects, not more than 5 units	Additional academic subjects, not less than 5 units	Vocational subjects, not more than 5 units
15 units	15 units	15 units

High school graduates who may not meet the suggested pattern of requirements will be considered for admission on the basis of the quality of their high school work and their scholastic aptitude as revealed by the psychological examination. The College honors the State High School Diploma, earned by examination.

* Applicants for admission to the Division of Management who either lack the necessary mathematics or do not have a C average in the required mathematics courses will be required to Schedule Math A-B not later than the second year of this program.



**Instructor and
Student Discuss
Drafting Problem**



**Laboratory Work in
D.C. Circuits**

Admission of Non-High School Graduates — Non-high school graduates whose high school records are of good quality and who demonstrate high scholastic aptitude in the admission examinations may be admitted. Generally speaking, they will be required to schedule preparatory work in English and mathematics upon admission. However, in cases of outstanding ability, the non-high school graduate may be permitted to enroll in courses of college level for one year. Whether the non-high school graduate is required to take preparatory work or is permitted to carry courses of college grade, he must within one year of admission qualify as a high school graduate by successfully passing the state examinations for the State High School Diploma.

State High School Diploma — Recognizing that many capable students withdraw from high school prior to graduation, the Connecticut State Department of Education provides an opportunity for these students to secure the legal equivalent of a high school diploma by means of State Equivalency Examinations.

Candidates for the State High School Diploma must: (1) be graduates of or have the education equivalent to that of the eighth grade, (2) be sixteen years of age or over, and (3) not be enrolled in a regular day high school. In addition, they must pass examinations in four areas of academic study, usually mathematics, English, general science, and social science.

The examinations are given regularly by the Bureau of Youth Services, State Department of Education, Hartford. They are also given to veterans by appointment at the Vocational Counseling Service, Inc., 30 Davenport Avenue, New Haven, Connecticut. For the convenience of students enrolled at the College, the examinations are given at the College in the fall and in the spring (see calendar).

It should be noted that the College is prepared to offer work in preparation for these examinations in English and mathematics only.

Admission to Advanced Courses — Students desiring to be admitted to advanced courses for which they do not have the formal prerequisites may demonstrate their ability to carry the advanced course by taking crediting or qualifying examinations in the prerequisites. The qualifying examination is generally a two hour written examination and no credit is established by it. It is, therefore, recommended that candidates for a degree use the crediting examination rather than the qualifying examination. The qualifying examination is primarily intended for special students who desire only certain courses in the College and are not candidates for a degree.

Admission with Advanced Standing — Advanced standing may be granted to students who (1) present an official transcript of acceptable credit from an accredited institution of higher learning, or (2) pass a crediting examination.

Credit by Transfer — Credit by official transcript from an accredited institution of higher learning will be tentatively evaluated at the time of admission and credit may be granted officially upon completion of a year of successful work in the College.

Credit by Crediting Examination — Since it is the stated policy of the College that no student shall be required to take courses which he does not need because of previous experience or education, and since his previous experience or education may have been with a non-accredited institution or agency, or in the armed forces

from which situations official transfer of credit is impossible, a student may meet course prerequisites and/or establish credit in specific courses by passing successfully a crediting examination in each of the courses in which he feels qualified.

Application for such examinations must be made in writing to the Director of Instruction and must be accompanied by payment of a fee of \$10.00 for each examination. Crediting examinations will consist of a written examination, requiring from three to four hours, and a one hour oral examination.

At least one year's successful study must be completed in the College before credit earned by crediting examinations will be granted officially.

Application for Admission

Application for admission should be made on or before September 17 for the fall term, on or before February 1 for the spring term, and on or before June 23 for the summer term. Those who make application after these dates will be required to pay a registration fee of \$5.00 instead of \$3.00. Application should be made in person at 114 Winchester Hall, at which time a member of the College faculty will interview the prospective student for the purpose of obtaining personal information and of tentatively outlining the student's future program.

Following the interview, and before the dates given above, the applicant must complete the necessary registration forms and pay the registration fee.* The registrar will then secure from the principal of the applicant's former school a transcript of his academic record.** The registration fee is not returned if the applicant withdraws his application or fails to begin classes, but the fee is returned if the College decides not to accept the student. Acceptance of the applicant will be determined on a basis of the interview, an evaluation of previous academic records, and the results of a college aptitude examination. Placement of students in specific courses will be determined on a basis of the placement examinations.

Placement Examinations — All students must take the College aptitude examination, except those, who, prior to the administration of the examination, present a transcript showing at least one year's acceptable credit from a recognized institution of higher education.

All students must take an English examination, except those who present at least five semester hours of acceptable credit in English from recognized institutions of higher education. The results of this examination may determine the student's placement in courses and sections. All students who are poorly prepared in the mechanics of English and in reading comprehension are required to pass English A-B, a course in remedial English grammar and reading. However, no credit toward graduation is given for this course.

All applicants who wish to study mathematics or engineering must take the mathematics placement examination. Exceptions are as follows:

1. Students who have not had both one year of algebra *and* one year of plane geometry, or their equivalent, need not take the examination, for they will automatically be placed in Mathematics A-B.

* This fee is payable by all veterans whether or not they submit their Certificate of Eligibility at the time of application. It will be refunded to those who actually begin study under Public Law 546 or Public Law 16.

** It is highly desirable that applicants for admission present a transcript of previous education at the time of interview.

2. Students who elect to begin, or to resume, their study of mathematics at the beginning of preparatory mathematics (Mathematics A-B) need not take the examination.
3. Students who present at least 5 semester hours of acceptable credit in mathematics from recognized institutions of higher education.

All other students who wish to register for mathematics or engineering must take the mathematics placement examination. The results of this examination will determine a student's placement in Mathematics A-B or C-D (neither of which carries graduation credit) or in Mathematics 11-12, which is required of all engineering students. Students who are placed in Mathematics A-B or C-D will necessarily take a longer time in which to complete their engineering programs.

Acceptance of Application—Students accepted for admission will be selected from those applicants who have satisfied the entrance requirements as outlined above. They will be notified of their acceptance. Upon receipt of notification of acceptance each entering student is required to pay the first payment of his tuition, which amounts to \$6.25 per subject. This fee is due on or before September 30 for the fall semester, on or before February 10 for the spring semester, and on or before July 2 for the summer term. It may be paid before notice of acceptance has been received by the applicant and will be refunded to any applicant who is not accepted.*

Early application for admission is desirable inasmuch as it gives ample time in which to secure and evaluate academic records, administer entrance tests, and complete other arrangements.

* This fee is not required of Veterans who have submitted Certificates of Eligibility or approval for training under Public Law 16.

**Accounting
Laboratory**



**Class Work in
Public Speaking**

Assignment to Classes — Upon receipt of the acceptance fee (or the Certificate of Eligibility from veterans) from those who have been notified of their acceptance into the College, the registrar will notify each student of his class schedule and will provide him with a book list. Insofar as possible the schedule and book list will be mailed to the student. Students who are late in fulfilling admission requirements, either academic or financial, may have to call for their schedules at the College office.

Re-Registration of Students Already Enrolled

Students who are continuing their studies from term to term are required to re-register for each semester. The registration forms should be turned in before September 17 for the fall semester, before February 1 for the spring semester, and before June 23 for the summer term. Complete re-registration consists not only in executing the necessary forms but also in paying at least the first tuition payment. (See page 32 for date of first payment.) Payment of at least the first tuition payment as part of the re-registration procedure is required so that the College may be assured of the student's serious intention of continuing his studies. Failure either to complete the forms or to pay the tuition charge incurs a late registration fee of \$2.00. Otherwise there is no charge for re-registration.

Assignment to Classes — The registrar will send a class schedule and a book list to each student who has re-registered on time. Late re-registrants may have to call for their schedules and book lists at the College office.

Schedule of Classes

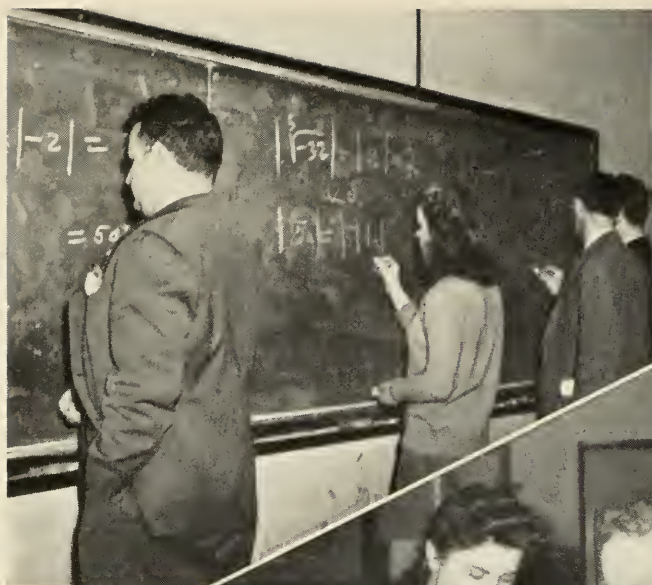
All classes are scheduled on Monday, Wednesday and Friday. Most classes will be in session between 7:15 and 9:35 P.M., although certain courses may be scheduled in the late afternoon. A schedule of three courses requires the attendance of a student each Monday, Wednesday and Friday. Registration for less than three courses will modify an individual's schedule.

Transfer of Credit

In accordance with the usual practice among institutions of higher learning, transfer of credit from the College to another institution will be determined by the other institution primarily in terms of the achievement and promise of the individual seeking transfer. The institution to which transfer is being made will also evaluate specific courses in terms of their length and content in relation to its specific requirements. New Haven YMCA Junior College is an accredited institution and its credits will be given consideration by the major institutions of the country in terms of the conditions outlined above.

Scholastic Regulations

Subject Load — A student may carry from one to four subjects concurrently, depending upon his work load and individual desires. If he is working half-time or less, he may carry four subjects. If he is working full-time, he may not carry more than three. The same academic standards are expected of a student regardless of the subject load he is carrying.



— and in
Drafting



Grading System — The following grading system is in use, and except where otherwise specified, applies both to examinations and to term work. The weighing of a final examination grade is a matter individually determined by each instructor.

- A Superior
- B Good
- C Fair
- D Lowest passing grade
- F Failure

Inc. Incomplete. This grade is used to indicate that a student, who has done satisfactory work otherwise, has been unable, due to extenuating circumstances, to complete work that is capable of being made up. In order to remove the incomplete, such work must be completed before the first day of the following semester.

Wd. Withdrawal. This grade indicates: (1) that the student withdrew prior to the midpoint of the semester, (2) that the student's work was satisfactory at the time of withdrawal if the withdrawal was after the midpoint of the semester. "F" will be given if a student withdraws after the midpoint of a semester if his work has been unsatisfactory.

- X Absent from final examination. When extenuating circumstances have prevented a student from taking a final examination, it may be made up before the first day of the following semester. A charge of \$5.00 is made for each make-up examination.

Grade Reports — Grade reports which include the final grade in each subject and any comment made by the instructor will be mailed to the student soon after the close of each semester. The same report will be mailed to employers in those instances where the student has given his approval. Grades and comments for veterans studying at government expense will be sent to the Veterans Administration.

Placement on Probation — Following are the regulations concerning scholastic probation:

1. A student (other than a new student) may be placed on probation:
(a) if two-thirds or more of his semester grades are "D"; (b) if he receives one "F" in any course regardless of his other grade or grades; (c) if he does not make up an Incomplete within the required time.
2. Any new student may be placed on probation upon admission to the College if his previous scholastic grades, either high school or college, are below a C average, and/or if his test scores are in the lowest quartile on the psychological examination.

In the absence of conclusive evidence to the contrary, a student whose academic record and/or test scores are probationary, as defined above, will automatically be placed on the probation list and will be so notified.

Removal of Probation — In order to remove his probationary status, a student must earn a C average, with no grade of F, by the end of the second semester during which he is enrolled subsequent to being placed on probation.

Dismissal — Unless a student removes his probationary status by the end of the second semester for which he is enrolled subsequent to his being placed on probation, he may be dismissed from the College for academic deficiency.

Readmission — A student may be considered for readmission to the College after he has been out of school for one semester following his dismissal. His request for readmission should be made in writing to the Director of Instruction at least three weeks prior to the opening of the semester to which he wishes to be readmitted. Applications for readmission will be considered only when additional evidence is provided which appears to indicate the student's probable success if readmitted.

Veterans

New Haven YMCA Junior College is approved by the Veterans Administration for the education of veterans under the terms of both Public Law 16 (the Vocational Rehabilitation Act) and Public Law 346 (the Servicemen's Readjustment Act, commonly known as the G.I. Bill). Since the first veteran enrolled in the College in July 1944, the number has rapidly increased until by April 1946 over sixty per cent of the College enrollment consisted of veterans.

In view of the fact that the program of the College is considered a half-time program, veterans attending the College have twice the time for education for which they are eligible in a full time program.

Public Law 346—The Veterans Administration will defray the cost of tuition, books, fees, and supplies of veterans studying at the College under the provisions of Public Law 346. In addition, it will pay subsistence allowance, in the proper proportion, to veterans whose study at the College is required in connection with an on-the-job training program which has the approval of the Veterans Administration. The Veterans Administration thus recognizes the importance of the plan of related work and study which forms one of the basic concepts of the College.

A veteran who is employed only part time may be eligible for part of this subsistence allowance by virtue of his study at the College. If a veteran is a regular full-time employee in a business or industry, his tuition, fees, books and supplies will be paid for by the Veterans Administration, but he will not be eligible for subsistence payments.

Veterans should apply to the Veterans Administration for their Certificate of Eligibility well in advance of their anticipated registration at the College. The Certificate of Eligibility should be endorsed and presented to the College at the time of registration. If it is not presented at the time of registration, a veteran will be expected to meet all financial obligations in the same manner as other students until such time as it is presented. When it is not presented until after the veteran has made payments to the College, his payments will be refunded to him, provided that the Certificate covers the period for which payments were made.

When the veteran wishes to study at the College and has submitted his Certificate of Eligibility to an employer for on-the-job training prior to enrollment at the College, both the veteran and the employer must write the Veterans Administration requesting a supplementary Letter of Eligibility to cover his related college training. The supplementary letter should be presented to the College.

Public Law 16—Under the provisions of P.L. 16 the Veterans Administration will assume responsibility for expenses only if the courses the veteran wishes to take at the College are related to the on-the-job-training on which he has been placed by the Veterans Administration, and only when his program of study has the approval of the Veterans Administration. A person desiring to study at the College under P.L. 16 should, at the time of registration, present the College with a letter from the Veterans Administration stating he is engaged in on-the-job-training, and naming his vocational objective. The letter should indicate that the supplemental training at the College meets with the approval of the Veterans Administration. Unless these conditions are met, the veteran must assume financial obligations in the same way as any other student.

Books, Supplies and Equipment—Each veteran will purchase the books, supplies and equipment he needs for the courses in question, and will present his receipts to the College. At the end of each semester the amount indicated by the receipts will be refunded to the veteran, provided it does not exceed the cost of such items as are regularly required by the instructor in his classes.

Admission Requirements — Veterans are required to meet the same admission requirements as all other students.

Counseling — Although the Director of Student Personnel is the official designated to handle veteran's problems, each member of the administrative staff is available and prepared to discuss problems with veterans. Appointments may be made at the office of the College, Room 114, Winchester Hall.

Withdrawal — If a veteran wishes to withdraw from the College, he should discuss it with a member of the staff, or present in writing his desire to withdraw and give his reasons. He should also notify the Veterans Administration in writing, stating the reasons for his withdrawal. Failure on the part of a veteran to indicate in writing his withdrawal and to give the reasons therefore may jeopardize his veteran's benefits entirely.

Student Activities

Student Council — The extra-curricular activities of the student group are planned and administered by the Student Council under the guidance of the Director of Student Personnel. Among the activities promoted by the Council are dances, sports, and club programs. The Council also acts as a means of reflecting student opinion to the administrative staff of the College.

Student Newspaper — *The News* is a monthly newspaper edited and published by the student group. Any student who so desires may volunteer his services on the newspaper staff.

Student Loan Funds — The College has been the recipient of gifts from individuals interested in assisting students. Some of these gifts have been especially designated as revolving loan funds.



Student Activities
Committee

The purpose of the loan fund is to assist students who have attended the College for at least one semester. A limited portion, however, is available for students entering the College for the first time. The fund is administered by a committee of the faculty in accordance with policies established by the Board of Governors of the College.

Applications for this assistance should be made to the Director.

Scholarships — A limited number of scholarships, amounting to approximately one-half of the tuition are available each year. These are awarded by the Committee on the qualifications presented. Scholastic attainment, ability to profit from the course, and financial need are taken into consideration.

Application should be made well in advance of the beginning of the College year. Application forms may be secured from the College office.

In addition to general scholarships, certain special scholarships are available: Foremen's Club Scholarships, Alumni Scholarships, Board of Governors Scholarships, Faculty Scholarships.

Alumni Association — More than 7500 students have attended the College since its founding. The alumni participate in the administration of the College by electing representatives to the Board of Governors; they encourage academic scholarship by making annual awards to the highest ranking senior in the engineering, business, and management divisions.

Placement Service

The College receives requests from both students and employers for job placement services. Although the College does not conceive its function to be that of a public employment service, it is interested in and prepared to render placement service within the limitations of its purposes and resources. It acts as a medium of exchange of information between students and former students who desire placement, and employers seeking personnel. It is particularly interested in helping students find positions which require college study or which lead to positions that require such education.



Student
Dance

How the Placement Service Operates —

1. For present or former students who are unemployed.

When a present or former student who is unemployed seeks placement, the College will notify potential employers of his availability.

2. For present or former students who are employed.

When an employed student or former student requests placement service, the College encourages the student to talk with his company coördinator concerning the possibilities within his own company. Since the College has a very close working relationship with certain companies through their participation in its development program under Employee Training Agreements, it is in an especially favorable position to discuss the student's case with the coördinators of these companies. It is only after the College is convinced that the best interests of the student will be served that it will undertake placement services for the student who is already employed.

3. In handling requests from companies.

When a company requests the College to recommend students to fill a position, it will, if possible, refer qualified students to the company after having followed the procedure outlined above. It cannot undertake to search for applicants outside of the group who have indicated their desire for placement.

4. For students desiring placement.

A student or former student who desires placement should call by telephone or in person to make an appointment with the Industrial Coördinator of the College to discuss the placement problem.

5. For companies wishing to use the placement facilities of the College.

A company wishing to use the placement facilities of the College should list the job and the desired qualifications with the Industrial Coördinator of the College.



Registration
April, 1946

Tuition and Fees

*REGISTRATION FEE	\$3.00
(required only of students registering for the first time)	
LATE REGISTRATION FEE	2.00
(required of all students registering after the close of the registration period, and added to the Registration Fee of new students who register late. See dates on calendar)	
TUITION (per course per semester)	25.00
STUDENT ACTIVITIES FEE (per semester)	.50
DEFERRED TUITION CHARGE (per semester)	1.00
MAKE-UP EXAMINATION	5.00
CREDITING EXAMINATION	10.00
DIPLOMA FEE	10.00
*FIRST TUITION PAYMENT (See below)	per subject 6.25

Schedule of Tuition Payment Dates

Cash Plan:

Tuition and fees for the fall and spring semesters are as follows:

	7½ sem. hrs.	5 sem. hrs.	2½ sem. hrs.
Due on or before September 30, February 10	\$18.75*	\$12.50*	\$ 6.25*
Due on or before October 21, March 5	56.75***	38.00***	19.25***
	\$75.50	\$50.50	\$25.50

Deferred Plan:

Tuition and fees are payable on the deferred plan as follows:

<i>Fall 1946</i>	<i>Spring 1947</i>	7½ sem. hrs.	5 sem. hrs.	2½ sem. hrs.
September 30	February 10	\$18.75*	\$12.50*	\$ 6.25*
October 21	March 5	20.25**	14.00**	7.75**
November 15	April 2	18.75	12.50	6.25
December 16	May 14	18.75	12.50	6.25
		\$76.50	\$51.50	\$26.50

<i>Tuition and fees for Summer 1947:</i>	<i>Cash</i>	<i>Deferred</i>
July 2	\$50.50***	\$16.50
July 28		18.50**
August 18		16.50
	\$50.50	\$51.50

Return of Fees and Tuition

The Registration Fee is refundable only to those who are refused admission to the College on the basis of scholastic qualifications.

The first payment of tuition each semester is not refundable.

In the event of withdrawal from the College, tuition cancellations will be made as of the first of the following payment period. Tuition refunds to those paying in advance will be made on the basis of deferred payment charges.

* Not refundable.

** Includes deferred payment charge and student activities fee.

*** Includes student activities fee.



MARVIN K. PETERSON
Chairman, Division of Business

Division of Business



The Division of Business offers five major programs leading to the degree of Associate in Science. These programs are: Business Administration, Public Accounting, Industrial Accounting, Office Supervision and Management, and Sales and Marketing. Complete descriptions of each of these programs in the Division of Business will be found on pages 34 to 38.

Students not desiring to take a complete program leading to the Associate in Science degree may study individual courses within any of the programs. Courses having prerequisites must, however, have those prerequisites satisfied before such students are permitted entrance to them. Satisfaction of these prerequisites may be in the form of previous formal educational training, evidence of commensurate practical experience, or by means of a qualifying examination.

Instruction in the major subjects of business activity is carried on by personnel actively engaged in their respective fields. Thus a large degree of practicability, as well as theory, is present in all programs. In addition, classroom situations and standards of achievement are those commensurate with the business world. As a result students are prepared upon completion of study to take positions of responsibility in the field of their choice.

Business Administration

The program in Business Administration offers an opportunity to study principles of business administration in a broad and systematic manner. Those students who have not yet made a specific choice in the field of business will find the first year of this program adaptable to any of the other programs in the Division of Business should they desire to change to one of those programs after the first year. The student who is in a business of his own or who will become the administrative head of a business will find the broad treatment of business subjects commensurate with his desires. The student who is employed by a business or industry in a general administrative capacity has an opportunity for preparation for advancement to a junior executive position within that business.

The selection of elective courses in the latter part of the program serves two purposes. The student may elect to broaden his education by the choice of courses remote from the field of business or he may elect to specialize in accounting, personnel management, industrial organization, sales, office management, etc.

The Seminar presents an opportunity for individual research and study. Exchange of thoughts and ideas with other students in the seminar and with the instructor provides an approach to the solution of the problem from different points of view.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Introductory Accounting (A 11-12) Psychology (P 23-24) English (E 13-14)	Introductory Accounting (A 11-12) Psychology (P 23-24) English (E 13-14)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Modern Civilization (Ec 13-14) Business Finance (BA 21-22) Modern Science (S 11-12)	Law of Contracts and Business Associations (L 11-12) Business Finance (BA 21-22) Modern Science (S 11-12)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Law of Contracts and Business Associations (L 11-12) Public Relations (BA 31-32) Economics (Ec 33-34)	Seminar (BA 41-42) Public Relations (BA 31-32) Elective
	Summer		Elective
4	Fall and Spring	Seminar (BA 41-42) Elective Elective	

Public Accounting

The program in Public Accounting has as its primary objective the preparation of the student for a career in public accounting, either as an employee of a public accounting firm or for individual private practice. The student has the opportunity to satisfy the educational requirements and preparation necessary for the taking of the CPA examinations (Connecticut). If the three year apprenticeship training with a public accountant (necessary for eligibility to take the CPA examination) is taken simultaneously with his educational training, the student is ready to take the CPA examination immediately after graduation.

Those students who do not wish to enter the public accounting field will find themselves adequately prepared for general accounting positions in business or industry. Provision for an elective course in the senior year permits the student to acquire further training in any specific field.

Assuming no previous training in accounting prior to entering the program, the student in his second year will be prepared to take beginning accounting jobs in public accounting, business, or industry. It is not necessary for the student to wait until graduation in order to begin his practical accounting career.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Introductory Accounting (A 11-12) Law of Contracts and Business Associations (L 11-12) English (E 13-14)	Introductory Accounting (A 11-12) Law of Contracts and Business Associations (L 11-12) English (E 13-14)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Modern Civilization (Ec 13-14) Intermediate Accounting (A 21-22) Cost Accounting (A 23-24)	Law of Sales (L 21) Law of Commercial Paper (L 22) Cost Accounting (A 23-24) Intermediate Accounting (A 21-22)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Law of Sales (L 21) Law of Commercial Paper (L 22) Advanced Accounting (A 31-32) Auditing (A 33-34)	Income Tax Procedure (A 41-42) Advanced Accounting (A 31-32) Auditing (A 33-34)
	Summer		Elective
4	Fall and Spring	Income Tax Procedure (A 41-42) Economics (Ec 33-34) Elective	

Industrial Accounting

The program in Industrial Accounting is designed for those students of accounting who wish to specialize in cost work. It is for the student who is or who will be employed by an industry in its cost accounting department. As a corollary to his cost and general accounting training, the student is introduced to the principles of factory operation and production methods so that he will be better able to seek out and understand and then apply cost factors of a given product in the determination of its cost and selling value.

Adequate provision is made for electives in this program. The student may elect to study additional accounting courses in order to prepare himself for positions in the general accounting department of the industry as well as the cost department, or he may elect subjects in the fields of management and supervision or any other specific field in which he has an interest. Finally, his choice of electives may include subjects such as science and mathematics. In the choice of an elective subject, the student is limited only by his ability to qualify for that given subject, in view of previous educational or practical experience.

As in Public Accounting, the student is prepared to take a position in industry at the beginning of his second year.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Introductory Accounting (A 11-12) English (E 13-14) Industrial Organization and Management (IA 11-12)	Introductory Accounting (A 11-12) English (E 13-14) Industrial Organization and Management (IA 11-12)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Methods and Costs (PS 12) Fundamentals of Supervision (PS 13) Intermediate Accounting (A 21-22) Cost Accounting (A 23-24)	Methods and Costs (PS 12) Fundamentals of Supervision (PS 13) Intermediate Accounting (A 21-22) Cost Accounting (A 23-24)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Modern Civilization (Ec 13-14) Advanced Accounting (A 31-32) Economics (Ec 33-34)	Mechanical Processes (EM 23) Engineering Materials (EM 26) Advanced Accounting (A 31-32) Elective
	Summer		Elective
4	Fall and Spring	Mechanical Processes (EM 23) Engineering Materials (EM 26) Elective Elective	

Sales and Marketing

The program in Sales and Marketing is a new program which is part of the post-war development at the College. It has been designed primarily for two types of students. One is the student who has had no previous experience in selling but is desirous of entering that field. Since the program begins immediately with techniques of selling and psychology, it thus supplements any job experience in selling that the student may acquire. The other type of student is one who has had experience in selling or is employed in that field. The program will train him for positions of greater responsibility and offers adequate preparation for positions at the junior executive level.

The student with sales experience, not desirous of taking the full program for the degree of Associate in Science, may take individual courses at any level for which he can qualify either through previous formal education or by commensurate practical experience.

The provision for electives in the senior year offers a wide range of course selection. This may be either in a specialized field or a broad field, depending on the student's interest. The Seminar offers opportunity for individual research and study.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	English (E 13-14) Psychology (P 23-24) Principles of Selling (SM 11-12)	English (E 13-14) Psychology (P 23-24) Principles of Selling (SM 11-12)
	Summer		Introductory Accounting (A 11-12)
2	Fall and Spring	Principles of Marketing (SM 21-22) Introductory Accounting (A 11-12) Economics (Ec 33-34)	Principles of Marketing (SM 21-22) Public Relations (BA 31-32) Elective
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Law of Contracts and Business Associations (L 11-12) Market Analysis (SM 31) Advertising (SM 32) Public Relations (BA 31-32)	Law of Contracts and Business Associations (L 11-12) Market Analysis (SM 31) Advertising (SM 32) Seminar (SM 41-42)
	Summer		Elective
4	Fall and Spring	Seminar (SM 41-42) Elective Elective	

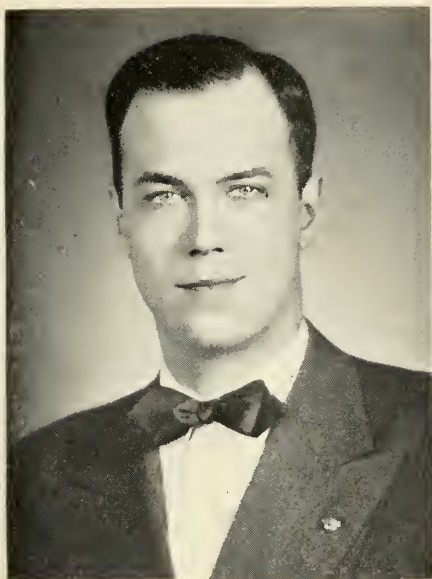
Office Supervision and Management

As part of the post-war development at the College, the program in Office Supervision and Management is being introduced in the fall of 1946. This program is mainly designed for those students employed in office positions who wish to prepare themselves for supervisory positions within the office organization. The program has as a further objective preparation for the position of office manager.

As in other programs in the Division of Business, students not desiring to take the complete program leading to the Associate in Science degree may study only those courses for which they have a desire and interest and for which they have the prerequisites either by virtue of previous educational training or commensurate practical experience.

Provision for elective courses permits specialization within a given field, such as accounting or sales, or it permits the study of more general courses. Those students in the Seminar who wish to do research in personnel problems are recommended to take the Personnel Seminar, substituting a one semester course for the first half of the year in which the Personnel Seminar is scheduled (See Personnel Administration program).

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Psychology (P 23-24) English (E 13-14) Office Organization and Management (OM 11-12)	Psychology (P 23-24) English (E 13-14) Office Organization and Management (OM 11-12)
	Summer		Introductory Accounting (A 11-12)
2	Fall and Spring	Introductory Accounting (A 11-12) Personnel Administration (PS 21-22) Modern Civilization (Ec 13-14)	Management-Labor Relations (PS 41) Fundamentals of Supervision (PS 13) Personnel Administration (PS 21-22) Modern Civilization (Ec 13-14)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Management-Labor Relations (PS 41) Fundamentals of Supervision (PS 13) Economics (Ec 33-34) Elective	Seminar (OM 41-42) Public Relations (BA 31-32) Elective
	Summer		Elective
4	Fall and Spring	Seminar (OM 41-42) Public Relations (BA 31-32) Elective	



FRED J. BECK
*Chairman, Department of
Electrical Engineering*

WALTER F. HIBBARD, JR.
*Chairman, Department of
Materials Engineering*



Division of Engineering



Work in the Division of Engineering is offered under three departments, namely Electrical Engineering, Materials Engineering, and Mechanical Engineering. Seven major curricula leading to the Associate in Science degree are offered. One of these programs, Plating Engineering—an option in the Materials Engineering Department—is a new one, being introduced this fall as the result of various requests from metallurgical processing industries in Southern Connecticut.

In Electrical Engineering two major programs are offered: Electrical Power Engineering and Electrical Communication Engineering. Complete descriptions of both these programs will be found on pages 40 and 41 of this bulletin. Mechanical Design and Tool Design Engineering, which are described in detail on pages 42 and 43, are the two options open to students interested in Mechanical Engineering. Work in Materials Engineering, which is the newest of these three departments, is outlined on pages 45 to 47. The three programs offered in this department provide options dealing with the metals, the non-metals, and the plating of metals.

Students enrolling in the Engineering Division are fortunate in having for their use the laboratory facilities of Yale University. Classes are held in Dunham Laboratory of Electrical Engineering, Sloane Physics Laboratory, Mason Mechanical Engineering Laboratory, Hammond Metallurgical Laboratory, Sterling Chemistry Laboratory, and Sheffield Laboratory of Engineering Mechanics. These facilities make it possible to offer advanced students in this division courses that are generally given in the junior and senior years of a four-year engineering program.

Electrical Communication Engineering

In the Electrical Communication program the desired objective is to give a thorough grounding in the principles underlying the general field of electrical communication. Such basic subjects as English, engineering drawing, physics, mechanics and mathematics are essential to an adequate preparation of the student in this field; and early provision is made for these courses in the program. The course in direct current circuits and machinery is followed by courses in alternating current circuits and electric and magnetic fields. The course in electric and magnetic fields discusses more fully such concepts as inductance and capacitance and emphasizes the field aspect as a preparation for later work in wave guides, etc. The electronics course includes material on detection, amplification, modulation, oscillators, and the combination of these elements in radio receivers and transmitters. The communication circuits course in the last term will treat transmission lines, filters, wave guides, and antennae theory.

Those individuals employed in the communication industry or related fields should derive considerable benefit from a program of this nature. It is especially designed for those engaged in technical work in the telephone, telegraph, radio, or electronics industries. This curriculum, introduced in the fall of 1945, has already enrolled a large number of students.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	D. C. Circuits (EE 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)	D. C. Circuits (EE 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		A. C. Circuits (EE 31-32)
3	Fall and Spring	Engineering Drawing (D 11-12) A. C. Circuits (EE 31-32) Electric and Magnetic Fields (EE 33-34)	Elective Electronics (EE 43-44) Electric and Magnetic Fields (EE 33-34)
	Summer		Communication Circuits (EE 45-46)
4	Fall and Spring	Communication Circuits (EE 45-46) Electronics (EE 43-44) Elective	

Electrical Power Engineering

The foremost objective of the Electrical Power program is to provide a sound and thorough training in the fundamentals of electrical engineering necessary to a successful mastery of the problems which are met with in the power field. To this end the early portion of the program is devoted to training in written and oral expression and also to the basic science and mathematics essential to progress in electrical engineering. Subsequent work deals with direct current circuits and machinery and their associated control apparatus. Alternating current circuits, alternating current machinery and mercury arc rectifiers are given after completion of the work on direct current circuits and machinery. Concurrently with alternating current circuits the power major studies the laws of thermodynamics and their application to steam engines, gas engines, diesel engines, etc. The electronics course in the last term will treat the necessary fundamentals of electron tubes, such as amplification, detection, modulation, etc., and their use in power and communication circuits.

Emphasis throughout the course will be placed on the acquisition of a thorough knowledge of the principles of electrical engineering and their applications to industry. Students who are at present employed or contemplate employment in Public Utilities, Electrical Manufacture, or industries utilizing electrical power equipment should find this program of distinct value.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	D. C. Circuits (EE 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)	D. C. Circuits (EE 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		A. C. Circuits (EE 31-32)
3	Fall and Spring	Engineering Drawing (D 11-12) A. C. Circuits (EE 31-32) Elective	Thermodynamics and Heat Power (Ph 31-32) Electronics (EE 43-44) A. C. Machines (EE 41-42)
	Summer		Elective
4	Fall and Spring	Thermodynamics and Heat Power (Ph 31-32) Electronics (EE 43-44) A. C. Machines (EE 41-42)	

Mechanical Design Engineering

To serve the needs of the numerous manufacturing industries in southern Connecticut, the design option of the mechanical engineering program provides training in the fundamental phases of the design and analysis of mechanical machinery and equipment and related subjects, such as manufacturing processes and engineering materials. It is intended for students who wish to learn the "why" and "how" of the various operations that are performed on the drawing board or in the shop. By this means a fundamental basis is provided for developing machine or equipment operators or clerical assistants into a design draftsman, a technical or production assistant, or a sales or service engineer.

The mechanical design option, like most engineering programs, is planned so as to give the student in his first year the knowledge of fundamentals in mathematics, science, and English needed for success in this profession. As the course progresses efforts are more and more directed at specific technological courses until in the final semesters the work is entirely technical in nature. Laboratory and demonstration work are introduced as found appropriate in connection with the subject matter being covered in the various courses.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	Engineering Drawing (D 11-12) Mathematics (M 21-22) Mechanics (EM 21-22)	Mechanical Processes (EM 23) Engineering Materials (EM 26) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		Strength of Materials (EM 31-32)
3	Fall and Spring	Mechanical Processes (EM 23) Engineering Materials (EM 26) Strength of Materials (EM 31-32) Mechanics of Machines (EM 33-34)	Elem. Machine Design (D 33-34) (Fall) Adv. Machine Design (D 41-42) (Spring) Mechanics of Machines (EM 33-34)
	Summer		Elective
4	Fall and Spring	Elem. Machine Design (D 33-34) (Fall) Adv. Machine Design (D 41-42) (Spring) Elective	

Tool Design Engineering

The tool design option of the mechanical engineering program was developed on the basis of the observations of technical educators and practicing mechanical engineers that a substantial portion of the mechanical engineering in manufacturing industries is concerned with "tooling up" for production. It is intended to provide the student with the fundamental basis for the design, selection and heat treatment of tools for a specific purpose and the analysis and planning of the use of tools in manufacturing processes. Here, a student employee, such as the tool room helper, may obtain the background for developing into a tool draftsman, a tool production engineer, an efficiency man for tooling methods, or a sales or service engineer for tool manufacturing concerns.

The College is one of the very few institutions offering a curriculum of this nature, emphasizing the specific aspects of mechanical engineering significant in tool production. Although the first two years' work stresses fundamental engineering training in mathematics, physics, engineering drawing, mechanics, and strength of materials, the last several terms are devoted to concentrated work and study on specific courses in the heat treatment of steel, elementary design, and tool design.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	Engineering Drawing (D 11-12) Mathematics (M 21-22) Mechanics (EM 21-22)	Methods Engineering (1A 33-34) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		Strength of Materials (EM 31-32)
3	Fall and Spring	Methods Engineering (1A 33-34) Strength of Materials (EM 31-32) Steels and Heat Treatment (Mt 41-42)	Elem. Machine Design (D 33-34) (Fall) Tool Design (D 45-46) (Spring) Steels and Heat Treatment (Mt 41-42)
	Summer		Elective
4	Fall and Spring	Elem. Machine Design (D 33-34) (Fall) Tool Design (D 45-46) (Spring) Elective	

Metallic Materials Engineering

The metals option of the materials engineering course was developed to assist the manifold industries utilizing metals in this area in training men or obtaining men trained in the fundamentals of the processing, properties and uses of metals, and the application of these fundamentals to typical problems in industry. Related engineering subjects, such as electrical survey, mechanics, and strength of materials, which are essential in modern metallurgical operations are also included. Graduates in this option should be equipped with the fundamental technical basis for starting in production control, trouble shooting, technical control and development, and sales service in the metal producing or fabricating industries.

This curriculum has been planned so as to give the student the fundamentals in those branches of engineering related to his major field. The courses in metallurgy are not taken until the fundamentals of engineering have been studied. This schedule is followed in order to make certain that students have the basic technical knowledge and the background of experience desired by the metallurgical industry. In view of the industrial opportunities offered to the metallurgical engineer in southern New England, students are advised to evaluate this program in terms of their own capabilities and capacity.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	Inorganic Chemistry (Ch 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)	Inorganic Chemistry (Ch 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		Strength of Materials (EM 31-32)
3	Fall and Spring	Non-Ferrous Metallurgy (Mt 31-32) Strength of Materials (EM 31-32) Elective	Non-Ferrous Metallurgy (Mt 31-32) Electrical Survey (EE 35-36) Steels and Heat Treatment (Mt 41-42)
	Summer		Elective
4	Fall and Spring	Engineering Drawing (D 11-12) Electrical Survey (EE 35-36) Steel and Heat Treatment (Mt 41-42)	

Non-Metallic Materials Engineering

Recent rapid strides in the development of the rubber and plastics industries in central and southern Connecticut have indicated a need for more individuals with a knowledge of the potential characteristics and variables involved in the processing and utilization of these materials. In addition a thorough grounding in engineering fundamentals and a useful command of oral and written English was stressed by the practical industrialist. The non-metals option of the materials engineering program is intended to meet those needs, and supply to such industries potential engineers for production control, trouble shooting, technical control and development, and sales service.

While the metallic materials engineering program is proposed primarily for men and women employed in industries utilizing metallic materials for the most part, this program is organized so as to meet the needs of those working in industries where the non-metallic materials—plastics, rubber, and the like—are manufactured, processed, or fabricated. The first two years of both the metals and non-metals options are the same, being designed to give a fundamental engineering background. Specialized courses in this curriculum deal with the organic chemistry of non-metallic compounds as well as their fabrication and utilization. Introduced in the fall of 1945, this course of study points up the College's effort to adapt its program to post-war industrial, economic, and educational developments.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)	Mathematics (M 11-12) English (E 13-14) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	Inorganic Chemistry (Ch 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)	Inorganic Chemistry (Ch 21-22) Mathematics (M 21-22) Mechanics (EM 21-22)
	Summer		Strength of Materials (EM 31-32)
3	Fall and Spring	Organic Chemistry (Ch 31-32) Strength of Materials (EM 31-32) Elective	Organic Chemistry (Ch 31-32) Electrical Survey (EE 35-36) Plastics and Rubber (Ch 41-42)
	Summer		Elective
4	Fall and Spring	Engineering Drawing (D 11-12) Electrical Survey (EE 35-36) Plastics and Rubber (Ch 41-42)	

Plating Engineering

The plating of metals option of the materials engineering program is a new option developed at the request of industry to provide a fundamental technological supplement to on-the-job training in the plating room. This option includes development of the electrical power source for plating; the chemistry of plating solutions, including analytical methods; the metallurgy of base metals and metallic deposits; and the technology of modern electro-plating and finishing methods, and equipment. The graduate in the plating engineering option should be equipped with the fundamental technical basis prerequisite to the technical control and development of plating operations, the proper selection of a metallic plate for a given purpose, the analysis of plating problems, and the sales and service of plated items.

So far as is known, the College is one of the first institutions to introduce a program in Plating Engineering stressing both the metallurgy and the technology of plating. In view of the fact that students will be enrolled in this curriculum in the fall of 1946 for the first time, several of the advanced courses will not be offered until the 1947-48 term at the earliest. However, students with training and experience will be admitted to the second-year courses when they can show evidence of meeting the prerequisites and possess the qualifications of ability and capacity that will enable them to carry this work successfully. Fundamental engineering training is acquired by all students completing this program.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	English (E 13-14) Mathematics (M 11-12) Engineering Physics (Ph 11-12)	English (E 13-14) Mathematics (M 11-12) Engineering Physics (Ph 11-12)
	Summer		Engineering Drawing (D 11-12)
2	Fall and Spring	Inorganic Chemistry (Ch 21-22) Engineering Drawing (D 11-12) D. C. Circuits (EE 21-22)	Inorganic Chemistry (Ch 21-22) Elective D. C. Circuits (EE 21-22)
	Summer		Analytical Chemistry (Ch 33-34)
3	Fall and Spring	Electrochemistry (Ch 35-36) Non-Ferrous Metallurgy (Mt 31-32) Analytical Chemistry (Ch 35-36)	Electrochemistry (Ch 35-36) Non-Ferrous Metallurgy (Mt 31-32) Steels & Heat Treatment (Mt 41-42)
	Summer		Metal Cleaning, Plating & Finishing (Mt 43-44)
4	Fall and Spring	Steels & Heat Treatment (Mt 41-42) Elective Metal Cleaning, Plating & Finishing (Mt 43-44)	



EVERETT W. MARTIN
*Chairman, Department of
Industrial Administration*

Division of Management

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During the last five years, there has been an increasing demand for courses in Supervision, Production, Methods, Motion and Time Study, Safety, Personnel and Labor Relations. Three major curricula leading to the Associate in Science degree have been developed within the Division of Management. The program in Industrial Administration is designed primarily for persons whose major administrative responsibility might be in a staff department dealing with materials, methods, or other non-personnel phases of the business. The Personnel Supervision program is designed for those who are concerned primarily with the managing of personnel. An Industrial Safety option is available for students approaching the subject either from a personnel or non-personnel position.

While these programs are organized primarily for degree students, special students who are qualified by experience or previous study may be admitted to any course. Instruction, where practicable, is given by men who are in immediate contact with current industrial problems in the field. Visiting specialists in certain areas conduct classes in their specialties.

Students electing a program in the Division of Management are subject to an entrance requirement in mathematics. The minimum requirement is one year of both high school algebra and plane geometry. Students may meet this requirement by completing satisfactorily Mathematics A-B in the College. For profitable study in several of the courses offered, additional mathematics through trigonometry would be desirable.

Personnel Supervision

Five types of students find study in personnel supervision profitable: (1) those who wish to prepare for the line supervisory positions in business and industry; (2) those who wish to secure a background for a staff position in personnel relations; (3) present foremen and members of "middle management" who desire to broaden the base of their technical training; (4) engineers, accountants and others in staff positions who desire to prepare for supervisory responsibilities in their fields; (5) union stewards and officers.

These students find about one half of their program devoted to fundamentals of human relations and the other half to the technical aspects of the job, but even in the technical aspects it is not forgotten that a supervisor of personnel functions through employees as groups and as individuals. Psychology, Fundamentals of Supervision, Personnel Administration, Management-Labor Relations, and Personnel Seminar are courses stressing the principles of scientific management as related to personnel work. An over-all view of industry is emphasized in industrial organization and management, while specific aspects of the industrial process are examined in Methods and Costs and Production Control. The required English program is to give competence in writing and speaking; and courses in sociology, economics, and science help the student to realize the impact of these forces on man's daily life and work.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (1A 11-12)	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (1A 11-12)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Methods and Costs (PS 12) Fundamentals of Supervision (PS 13) Personnel Administration (PS 21-22) Modern Civilization (Ec 13-14)	Methods and Costs (PS 12) Fundamentals of Supervision (PS 13) Personnel Administration (PS 21-22) Elective
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Elective Production Control (1A 31-32) or Public Relations (BA 31-32) Economics (Ec 33-34)	Management-Labor Relations (PS 41) Personnel Seminar (PS 42) Production Control (1A 31-32) or Public Relations (BA 31-32) Modern Science (Sc 11-12)
	Summer		Elective
4	Fall and Spring	Management-Labor Relations (PS 41) Personnel Seminar (PS 42) Modern Science (Sc 11-12) Elective	

Industrial Administration

The basic program in Industrial Administration covers a study of the organization and management of industry, of scientific methods, of psychology applied to the problems of management, of internal business finance, and of industrial economics. To meet the need of the modern industrial administrator for an understanding of the impact of the non-industrial world upon problems of industrial administration, students in this program study science, sociology, and psychology. Writing and speaking are tool subjects. Specialization in the final year of study fits the student for staff positions in industry.

The two major purposes of this program are: (1) to provide special training in specific subject-matter areas, and (2) to give a broad basic background which will enable the student to analyze and cope with contemporary industrial problems. In a sense, this is an industrial or management engineering curriculum. Completion of it will equip an individual for responsible administrative or executive duties in industry, as well as for such specific jobs as time study analyst, production coördinator, dispatcher, job analyst.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (IA 11-12)	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (IA 11-12)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Modern Civilization (Ec 13-14) Business Finance (BA 21-22) Economics (Ec 33-34)	Elective Business Finance (BA 21-22) Modern Science (Sc 11-12)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Elective Production Control (IA 31-32) Modern Science (Sc 11-12)	Methods Engineering (IA 33-34) Production Control (IA 31-32) Engineering Drawing (D 11-12)
	Summer		Elective
4	Fall and Spring	Methods Engineering (IA 33-34) Elective Engineering Drawing (D 11-12)	

Industrial Safety

Majors in the Division of Management may elect the Industrial Safety option. This option is designed primarily for safety engineers and safety supervisors or those preparing for such positions. In this option the student may secure an understanding and appreciation of the fundamentals of safety, the scientific analysis of safety problems, a study of methods improvement to eliminate hazards, and some research and creative work in accident prevention.

Students whose responsibilities chiefly deal with materials, methods or the non-personnel aspects of safety must select two of their three electives from the following subjects:

Engineering Drawing
Production Control
Business Finance

Mechanical Processes (Fall Semester)
Engineering Materials (Spring Semester)

Those whose responsibilities are primarily related to personnel supervision should elect two of the following subjects:

Personnel Administration
Public Relations

Management-Labor Relations (Fall Semester)
Fundamentals of Supervision (Spring Semester)

To be certain of fulfilling degree requirements, any student in the industrial safety option taking an elective should submit his tentative schedule to the program chairman for approval.

YEAR	SEMESTER	FOUR YEAR PROGRAM	THREE YEAR PROGRAM
1	Fall and Spring	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (IA 11-12)	English (E 13-14) Psychology (P 23-24) Industrial Organization & Management (IA 11-12)
	Summer		Modern Civilization (Ec 13-14)
2	Fall and Spring	Modern Civilization (Ec 13-14) Elective Elective	Elective Elective Industrial Safety (S 11-12)
	Summer		Economics (Ec 33-34)
3	Fall and Spring	Industrial Safety (S 11-12) Elective Economics (Ec 33-34)	Methods Engineering (IA 33-34) Adv. Industrial Safety (S 21-22) Modern Science (Sc 11-12)
	Summer		Elective
4	Fall and Spring	Methods Engineering (IA 33-34) Adv. Industrial Safety (S 21-22) Modern Science (Sc 11-12)	



Division of General Studies



Considerable emphasis has been placed in recent educational reports on the need for "general education" and it is in recognition of this need that the Division of General Studies was organized in the College. Although still in the formative stage, this Division has already been responsible for the organization of certain courses providing that type of non-specialized and non-vocational education that has been referred to in policy statements issued by the American Council on Education, Educational Policies Commission, and other educational organizations and institutions.

Unlike the other divisions of the College, work in the Division of General Studies has not as yet been organized into curriculum patterns leading to the Associate in Science degree. Its purpose thus far has been to develop special courses which are of general interest to special students, as well as to degree students registered in other divisions of the College.

Students desiring to take a general program not specializing in the more specific programs offered in the Divisions of Business, Engineering, or Management may select courses from the following list:

Economics

Modern Civilization (Ec 13-14). Credit, 5 semester hours.

Economics (Ec 33-34). Credit, 5 semester hours.

English

Grammar Laboratory (English A). One semester.

Reading Laboratory (English B). One semester.

Writing Laboratory (E 13). Credit, 2½ semester hours.

Speaking Laboratory (E 14). Credit, 2½ semester hours.

Mathematics

Fundamental Mathematics (Math A, B, C, D).

Mathematics (M 11-12). Credit, 5 semester hours.

Mathematics (M 21-22). Credit, 5 semester hours.

Psychology

Psychology (P 23-24). Credit, 5 semester hours.

Science

Modern Science (Sc 11-12). Credit, 5 semester hours.

Various subjects of a general rather than a highly specialized nature may also be elected, for example Business Finance, Business Law, Inorganic Chemistry, or Industrial Organization and Management.

Admission to these courses on the part of non-degree or special students will be dependent on the individual's interest and need as well as upon evidence of pre-requisite training or experience which would enable him to profit from the course. The courses in general are designed to give to the student a richer, broader, educational experience.

This Division stands ready at all times to develop courses or programs which will offer the advantages of adult education on the college level to the community. Organizations or groups should feel free to express to the College administration their needs, interests, and desires. Members of the College staff will be glad to outline for them possible educational activities either of a formal or an informal type. The College stands ready at all times to place its services at the disposal of any educational enterprise which is for the community betterment.

Description of Courses

Accounting

Introductory Accounting (A 11-12). Credit, 5 semester hours.

This course, which is prerequisite to all other courses in accounting, familiarizes the student with fundamental principles of accounting. This work is supplemented by progress tests, problems, and systematic practice work. The fields of study covered include: interpretation of assets, liabilities, and net worth; preparation of statements; books of original entry; ledgers; and work at the end of a fiscal period.

Intermediate Accounting (A 21-22). Credit, 5 semester hours.

This course is a continuation at a more advanced level of the principles studied in Introductory Accounting. It is intensive and adapted to present day changes in the accounting profession. The subject matter includes: the corporation, asset valuations, liabilities, installment sales and consignments, analysis and interpretation of financial statements, sources and application of funds, depreciation methods, inventory evaluation, reserves, and surplus analysis. There is considerable practice in the form of problem solutions. Reference is made to the publications of the professional accounting societies.

Prerequisite: A 11-12.

Cost Accounting (A 23-24). Credit, 5 semester hours.

This course embraces the study of departmental and process cost accounting, specific order cost accounting, and standard costs. Thorough consideration is given to cost elements of material, labor, and manufacturing expense. Also included is the study of cost estimating, budgets in cost control, cost relationships, and cost reports for use of management. Forms and methods used in standard costs and analyses of variances for operational use are considered. Practical application of the principles studied is given through the working of practice sets and problems.

Prerequisite: A 11-12.

Advanced Accounting (A 31-32). Credit, 5 semester hours.

This is the final general accounting course covering all other phases of accounting not previously covered and not considered of a specialized nature. Upon completion of this course, the student is prepared for advanced study in specialized accounting and C.P.A. problems. Problems are solved under conditions similar to those required by the American Institute of Accountants. Emphasis is placed upon accounting for consolidations, but the following phases are also covered: partnerships; enterprises in receivership; liquidating partnerships in installments, estates and trusts; ventures, domestic home office and branch accounting.

Prerequisite: A 21-22.

Auditing (A 33-34). Credit, 5 semester hours.

This course includes examination of the financial condition, review of operations, preparation of audit program, audit working papers, and report upon examination of the client's business. The accountant's relationship with the client and the ethics of the profession are thoroughly discussed. A complete laboratory test is worked out to supplement the text study. Recent developments in audit procedure are included, systems in internal check analyzed, comparisons of balance sheets and detailed audits made. A background is developed in the theory of auditing in preparation for the C.P.A. examination.

Prerequisite: A 21-22.

Income Tax Procedure (A 41-42). Credit, 5 semester hours.

This course embraces a practical application of the principles of Federal Income Tax Law to concrete situations. The problems include the preparation of corporation, fiduciary, partnership, and individual tax returns; claims for refunds, credit, and abatement; records, reports, and requirements of Social Security and state and federal unemployment taxes; and the proper accounting procedure for tax records.

Prerequisite: A 21-22.

C.P.A. Problems (A 43-44). Credit, 5 semester hours.

This course is an analysis and study of C.P.A. problems from examinations of state boards of accountancy and the American Institute of Accountants. There is included a study of the principles of municipal accounting with particular reference to the requirements of Connecticut laws and regulations, and C.P.A. problems in the subject; institutional accounting with reference to methods peculiar to such institutions as colleges, hospitals, etc. A wide variety of problems is included, some of which are worked out under state examination conditions.

Prerequisites: A 31-32, A 33-34, L 21-22, Ec 33-34. (Ec 33-34 may be taken concurrently).

Business Administration

Business Finance (BA 21-22). Credit, 5 semester hours.

After a brief study of the various forms of business organization, the corporate form of organization is studied in greater detail. Classes of stocks and bonds and the rights of the holder are considered. Management and distribution of income are examined in detail with regard to surplus and dividend policies, reserves, depreciation, and financing of expansion. There is continuous stress on the internal control of finances through budgets and organization as well as financing through banks and investment houses.

Public Relations (BA 31-32). Credit, 5 semester hours.

This course deals with principles and methods used by a business or industry in interpreting its policies, personnel, goods, and services to the public. Attention is paid to the various public groups to be influenced by a public relations program, such as labor, business, consumer groups, stockholders, management, government officials, etc. It examines the beliefs and attitudes of these various public groups. Consideration is given to such factors as propaganda, public opinion, polls and surveys, institutional advertising, etc.

A survey is made to determine the public relations activities of various types of organizations and to outline the operation and organization of a public relations department and the media which it uses to contact public groups, such as education, the press, advertising. A study is made of the relative responsibility to the public of private organizations.

Prerequisite: P 23-24.

Business Seminar (BA 41-42). Credit, 5 semester hours.

This course is offered to give degree students in Business Administration an opportunity to examine a problem of their own particular interest and choice. The solution of this problem and the conclusions reached by the student will be presented in the form of a written report. In addition to group discussion and criticism, work will consist of independent reading and research. Various contemporary issues related to business policy, administrative organization, public relations, etc., will be investigated.

Prerequisites: 40 hours of college credit of which at least 20 hours must be selected from: Economics, Modern Civilization, Introductory Accounting, Business Finance, Psychology, Public Relations, and Law.

Business Law

Law of Contracts and Business Associations (L 11-12). Credit, 5 semester hours.

This course involves a study of basic principles of the law of contracts, agency, partnerships, limited partnerships, and corporations.

Contracts will involve a study of the formation of contracts, capacity of parties, offer and acceptance, performance, and discharge. Agency will deal with the appointment of agents, the relationship of principal and agent, power of the agent to bind his principal, duties of agent and principal to one another and to third parties.

Business associations will involve a study of the law relating to the formation and operation of the usual types of business organization. Also considered is the legal relationship among the individuals within the business organization as well as their relationship with third parties.

Law of Sales (L 21). Credit, 2½ semester hours.

This course is an advanced study of Business Law comprising: bailments; duties and liabilities of bailees, common carriers, and warehousemen; the laws governing the rights of parties engaged in the transfer of personal property. Questions of title, risks assumed, rights of creditors, express and implied warranties, buyers' and sellers' remedies, together with the business background out of which such relations arise are also considered.

Prerequisite: L 11-12.

Law of Commercial Paper and Bankruptcy (L 22). Credit, 2½ semester hours.

This course is a study of the Negotiable Instruments Law, dealing with negotiable promissory notes, bills of exchange and bank checks with an analysis of their form and function in commercial transactions. A brief survey of bankruptcy procedure under the federal bankruptcy laws is considered.

Prerequisite: L 11-12.

Chemistry

Inorganic Chemistry (Ch 21-22). Credit, 5 semester hours.

The objective of this course is to place emphasis on fundamental facts and principles of modern chemistry, particularly as applied in the field of engineering materials, and to afford practice in the accurate statement of scientific ideas and logical deduction from experimental observation. The course includes some laboratory work. *It does not presuppose any knowledge of chemistry.*

Organic Chemistry (Ch 31-32). Credit, 5 semester hours.

This course is designed as a preliminary to advanced work with organic constructional materials, e.g., rubber and plastics. It deals with fundamental principles of the structure, reactions and properties of organic compounds, particularly chain and ring structures. Polymerization and depolymerization are covered with emphasis on the correlated property effects. Lectures and laboratory work. (Not to be offered 1946-47.)

Prerequisite: Ch 21-22.

Analytical Chemistry (Ch 33-34). Credit, 5 semester hours.

Laboratory practice in methods of qualitative and quantitative analysis (gravimetric and volumetric) of common metals and their salts, supplemented by lectures and problems involving the laboratory work.

Prerequisite: Ch 21-22.

Electrochemistry (Ch 35-36). Credit, 5 semester hours.

The elementary principles of the chemistry of electrolytes, electrical conductance, Faraday's Law, electromotive force, chemical cells, electrodeposition, electrolysis and polarization with particular emphasis on the fundamentals of electrochemistry involved in the plating of metals. Lectures supplemented by laboratory demonstration. (Not to be offered 1946-47.)

Prerequisites: Ch 21-22, Ch 33-34. (The latter may be taken concurrently.)

Rubber and Plastics (Ch 41-42). Credit, 5 semester hours.

This course is designed to acquaint the student with the manifold types of organic constructional compounds employed industrially, with structural characteristics of each and the properties associated with specific structures, with fabrication processes, problems and variables and with the fields of utilization based on the background material. Lectures, discussion and some laboratory work are included. (Not to be offered 1946-47.)

Prerequisite: Ch 31-32.

Drawing and Design

Engineering Drawing (D 11-12). Credit, 5 semester hours.

This is an elementary course in engineering drawing designed to teach the use of instruments, the fundamental principles of projection, drafting room standards and conventions, lettering, selection and use of scales, orthographic projections, revolutions, developed surfaces, intersections and auxiliary views, and the making and dimensioning of complete working drawings of simple machine parts.

Elementary Machine Design (D 33-34). Credit, 5 semester hours.

The analysis and design of such elements as fastenings, bearings, gears, shafts, clutches, pulleys, and cams are discussed. Some machine parts are studied from the standpoint of kinematics, and their motions are analyzed.

Prerequisites: D 11-12, EM 21-22.

Advanced Machine Design (D 41-42). Credit, 5 semester hours.

The elements of machine design studied in the first year are unified in the complete design, individually selected and developed by the student. Advanced problems, such as balancing and critical speeds, are considered the latter part of the year.

Prerequisites: D 33-34, EM 31-32.

Tool Design (D 45-46). Credit, 5 semester hours.

A lecture, discussion and drafting room course covering production tools, such as punches and dies, gauges, cutting tools, machine tools, jigs and fixtures. Stress is laid on strength, accuracy and costs, utilizing practical examples from industry. A part of the course consists of a thesis project.

Prerequisites: D 33-34, EM 31-32.

Economics

Modern Civilization (Ec 13-14). Credit, 5 semester hours.

The aim of this course is a critical survey, rather than a descriptive analysis, of the cultural, economic, and political problems of modern society. Attention will be given to the conflicting philosophies of communism, fascism, and democracy. The course will critically analyze present day institutions and problems. It will survey social trends, and will examine the underlying philosophies as well as possible solutions of these present day problems.

Economics (Ec 33-34). Credit, 5 semester hours.

The course aims at an understanding of the principles, institutions, and practices which form the basis of our economic system and activity. Such aspects of our economy as production, price, exchange, and distribution will be considered. The course will examine the basic economic aspects of capitalism and the other "isms". Opportunity will be offered for the student to do independent work in the field of his own specialized interest.

Electricity

Direct Current Circuits and Machinery (EE 21-22). Credit, 5 semester hours.

Fundamental theory of electric and magnetic circuits and its application to direct current machinery are considered. The course includes laboratory work in measurements of electrical quantities and characteristics of direct current motors and generators.

Prerequisite: M 11-12.

Alternating Current Circuits (EE 31-32). Credit, 5 semester hours.

Fundamental theory of single phase and polyphase alternating current circuits, instruments and measurements is considered. Suitable laboratory work is included.

Prerequisites: EE 21-22, M 21-22.

Electric and Magnetic Fields (EE 33-34). Credit, 5 semester hours.

The physical and analytical properties of electric and magnetic fields are investigated and correlated with circuit concepts such as self inductance, mutual inductance, and capacity. The basic ideas underlying the study of transient phenomena are introduced. Computation and laboratory work are included.

Prerequisites: M 21-22, EE 21-22.

Electrical Survey (EE 35-36). Credit, 5 semester hours.

The basic principles of electrical engineering are developed and studied in relationship to their application to electrical equipment in common usage. Lecture, demonstration, computation, and laboratory work supplement the regular recitation classes.

Prerequisites: M 11-12, Ph 11-12.

Alternating Current Machinery (EE 41-42). Credit, 5 semester hours.

This course deals with the fundamental principles of alternating current machinery and an introduction to the theory of electronic tubes, with emphasis on the industrial and economic aspects of their application. About one-quarter of the time is devoted to laboratory work.

Prerequisite: EE 31-32.

Electronics (EE 43-44). Credit, 5 semester hours.

The physics of electron tubes and their use as circuit elements is discussed. Amplification, oscillation, modulation, and detection are explained and their application to industrial devices and communication equipment is considered. Laboratory and computation work are designed to emphasize the important aspects of the class study.

Prerequisite: EE 31-32.

Communication Circuits (EE 45-46). Credit, 5 semester hours.

The properties and uses of coupled circuits, transmission lines and filters are developed and discussed. The fundamentals of electro-magnetic waves and their application to antenna radiation problems and the propagation of waves along guides are investigated. Computation and laboratory work are included. (Not to be offered 1946-47.)

Prerequisites: EE 31-32, EE 33-34, EE 43-44.

Engineering Mechanics

Mechanics (EM 21-22). Credit, 5 semester hours.

In the first semester, the theory and application of the principles of static equilibrium, stress in framed structures, center of gravity and moment of inertia; force, mass and acceleration, and friction are studied.

In the second semester, rectilinear and curvilinear motion; work, power and energy; impulse and momentum; and a practical study of machine elements and problems in machine design are considered.

Prerequisites: M 11-12, Ph 11-12.

Mechanical Processes (EM 23). Credit, 2½ semester hours.

This course is designed to acquaint the student with the basic processes and equipment of industry. It begins with the processes involved in the production of engineering raw materials and proceeds through the various methods by which these materials are formed and combined into finished products. Foundry, forge, machine-shop, presswork, die-casting, and welding are examples of the methods and equipment discussed.

Engineering Materials (EM 26). Credit, 2½ semester hours.

A survey of the common metals used as engineering materials. This course is conducted largely by lecture and discussion but with occasional laboratory periods of a demonstration nature. Attention is directed to the production of these materials, methods of forming or fabrication, and typical properties of the final product. The bases for the selection of a particular material for a specific use, and the specifications by which they are purchased also are considered.

Strength of Materials (EM 31-32). Credit, 5 semester hours.

This course considers the theory of stress and resistance of materials; stress distribution in riveted joints, shafts, beams, and columns; principal stresses; laboratory demonstrations in materials testing; hardness, fatigue and impact strength; and problems in machine design and building construction.

Prerequisite: EM 21-22.

Mechanics of Machines (EM 33-34). Credit, 5 semester hours.

Advanced applied mechanics emphasizes the applications of engineering problems including governors, gyroscopic devices, balancing, vibration, friction, dynamics of the reciprocating engine, hoisting machinery, etc. The course is of the lecture and discussion type with assigned problems designed to encourage analytical reasoning.

Prerequisite, EM 21-22.

English

Grammar Laboratory (English A). One semester.

This course is intended to bring students to an acceptable level of proficiency in English grammar and usage, whatever their prior preparation in the subject may have been. Special work is prescribed for those whose preparation is inadequate and for those who show need of review. The objectives of the course are: first, to teach the student the fundamental principles upon which good English is based; second, to give him practical experience in the use of themes, recitations, note-books and conferences; and to train in the use of the dictionary.

Reading Laboratory (English B). One semester.

This course is planned, first, to meet the needs of students who need to gain skill in reading, and second, to arouse intellectual curiosity and an appreciation for wider and deeper reading. Skill in comprehension and speed is taught by exercises given to improve use of the eyes, through cultivation of good muscular habits; a broadened vocabulary, through alertness about words; faster and more concentration; and, finally, speed.

Writing Laboratory (E 13). Credit, 2½ semester hours.

This laboratory course is designed primarily to help students learn to write by writing—to develop the ability to organize thoughts quickly and effectively, to write with speed and facility, and to use good simple written English. In addition to familiarizing the student with the basic principles of expository writing, the laboratory section provides practice in applying these principles to the writing of letters, memos, reports, job descriptions, and other business papers.

Speaking Laboratory (E 14). Credit, 2½ semester hours.

This course serves as an introduction to the principles of speech. The objectives are: to develop in the student proficiency in the use of vocal and bodily aids in various speaking situations, and to help the student gain confidence and fluency when speaking extemporaneously, as in group discussions, or in everyday conversation. Recordings are used for self-analysis and criticism.

Industrial Administration

Industrial Organization and Management (IA 11-12). Credit, 5 semester hours.

This is a fundamental course dealing with the history of American industry; the organization of the industrial enterprise; the making of the product, with its manifold problems of men, materials, and machines; and the distribution of the product to the consumer. Through such a survey, together with specific cases, the intent is to provide a working knowledge of our highly complex industrial organizations, and at the same time, to establish the principles by which competent management is guided.

Control of Production (IA 31-32). Credit, 5 semester hours.

The instruction stresses the basic principles that govern production control in an industrial plant. The procuring and control of materials; the problem of routing, scheduling, dispatching, and follow-up; the questions of inspection of products and quality control—these are indicative of the nature of the course. Its intent is to train the student in the use of the most up-to-date methods in his field.

Methods Engineering (IA 33-34). Credit, 5 semester hours.

Instruction in methods of analyzing plant equipment, products, and operations is covered in this course. Process charts, flow charts, analysis sheets, preparation of summaries of operations, analyses of tools and requisite equipment, specifications for materials, the handling of materials in process, adapting plants to new products, the correlation of methods to safety and health requirements are some of the items considered. Time and motion study techniques are introduced in connection with many of these problems.

Industrial Safety

Industrial Safety (S 11-12). Credit, 5 semester hours.

The approach to the subject of industrial safety is from an analytical and scientific viewpoint. It aims to give a foundation to the student upon which he can build a better knowledge of safety and accident prevention. Each student will be required to give at least two talks before the class on a relevant subject and present a written report of not less than one thousand words. Safety talks of this course will be recorded and played back to the class for criticism and suggestion in order to increase the individual's ability in safety presentation.

Advanced Industrial Safety (S 21-22). Credit, 5 semester hours.

The advanced course covers more specialized work. In addition to discussion of special hazards, including occupational diseases, it is expected that students will, during the course of instruction, be doing advanced work in speaking and writing on safety subjects. There will be some laboratory work in connection with this course. The use of field instruments required for occupational disease studies will be thoroughly covered. Demonstration of visual and sound techniques in the preparation of safety education material is also provided. The emphasis throughout will be on creative work. (Not to be offered 1946-47.)

Prerequisite: S 11-12.

Mathematics

Fundamental Mathematics

Plane geometry and algebra are taught as one continuous course with emphasis on the algebra. The principal propositions in plane geometry are discussed and proved, as far as possible, by algebraic methods. Special emphasis is given to the solution of problems in plane geometry and algebra. Following are brief descriptions outlining the work of each semester:

Mathematics A-B. Two semesters work in one semester.

The work in algebra includes the fundamental operations of addition, subtraction, multiplication, and division, and applications of these operations to problems. Topics discussed include: factoring, fractions, and theory of equations. In plane geometry the concept of a proof is emphasized and applied, and the properties of the triangle are considered.

Mathematics C-D. Two semesters work in one semester.

During the term the fractional equation is studied and applied to more difficult problems; also systems of equations and the laws of exponents. Further work in algebra includes the following topics: the quadratic equation, ratio and proportion, variation, the trigonometry of the right triangle, and logarithms. In plane geometry the circle is discussed and studied, and consideration is given to similar figures and areas.

Two-year Program in Mathematics

Anyone studying mathematics should have some knowledge of the fundamental aspects of the subject. He should realize the necessity of basic definitions and assumptions, and understand the methods of reasoning employed.

The first object of the two-year course in mathematics is to obtain this background. The second object is to acquire as much facility as possible in using this basic information to study problems of a mathematical nature.

Mathematics (M 11-12). Credit, 5 semester hours.

The first part of this course deals with the basic aspects of the number system. Fundamental knowledge of it is obtained by beginning with the natural numbers (those numbers used in counting) and noting the assumptions made about the operations of addition and multiplication. Then, since the operations of subtraction, division, and root extraction are not always possible in the set of natural numbers, it becomes necessary to introduce other kinds of numbers. These are defined and the assumptions regarding the laws of operation pointed out. Facility in the use of this basic information is assisted by considering inequality and absolute value relations. In doing so, knowledge fundamental to an understanding of the limit operation is obtained.

The connection between arithmetic and geometry is then introduced by considering the geometric representation of numbers. This is followed by study of the laws of exponents and logarithms, after which comes the consideration of trigonometry.

Attention is next directed toward the limit operation. After defining it, three fundamental theorems are obtained and the way is cleared for the use of this operation in those discussions classed under the heading of the calculus.

Mathematics (M 21-22). Credit, 5 semester hours.

In the main this course is concerned with topics considered in the calculus. In developing the formal aspects of the subject, differentiation and integration are taught simultaneously. As many applications, as the time available permits, are discussed.

Prerequisite: M 11-12.

Metallurgy

Non-ferrous Metallurgy (Mt 31-32). Credit, 5 semester hours.

The physical metallurgy of aluminum, magnesium, copper, nickel, zinc, lead, tin and their alloys is covered by lecture, discussion and laboratory work. Melting, alloying, casting, extruding, rolling, drawing, and heat treatment of the metals are studied with emphasis on the efforts of variables and reasons therefor. Typical mill and service difficulties are analyzed in light of the specific fundamental principles involved. (Not to be offered 1946-47.)

Prerequisite: Ch 21-22.

Steels and Their Heat Treatment (Mt 41-42). Credit, 5 semester hours.

The course covers all grades of carbon and alloy steels used for press, structural, automotive, tool and die work, and in addition, cast irons as a supplementary or competitive material. The fundamentals, such as Fe-C phase diagram and transformation diagrams, grain size, and hardenability, are studied and then applied to a study of heat treatments including annealing, hardening, tempering, and carburizing. Equipment including protective atmospheres, liquid baths and induction heating are considered with a view of the particular fields of application. Laboratory work is supplemented by lectures and discussions.

Prerequisite: EM 31-32 or Ch 21-22.

Metal Cleaning, Plating and Finishing (Mt 43-44). Credit, 5 semester hours.

The principles and practice of metal cleaning, plating and finishing, including consideration of the factors involved in choosing the base metal, its cleaning and preparation, the electrodeposition of a metal, and buffing and finishing the plate. Equipment, such as the source of power, tanks, solutions and electrodes and their control, will be discussed. Emphasis will be placed on the properties of the metallic coating such as thickness, porosity, adherence, hardness, lustre and protective power and its application. Lecture supplemented by laboratory demonstration. (Not to be offered 1946-47.)

Prerequisites: Ch 35-36, Mt 31-32.

Office Supervision and Management

Office Organization and Management (OM 11-12). Credit, 5 semester hours.

This course considers the profession of office supervision and management by a study of the qualifications, responsibilities, and functions of the office manager. It deals with the organization of an office with respect to its personnel, physical layout, and equipment. The various departments of an office, such as filing, stenographic, credit, etc., are analyzed. The place and function of the office in the whole organization of the business is studied. Attention is given to costs and budgets.

Office Supervision and Management Seminar (OM 41-42). Credit, 5 semester hours.

This course is an opportunity to apply and summarize previous educational and practical training in the field of office management. Problems of contemporary and practical nature will be offered for solution. Reading, group discussion, and independent research and study will provide material for a written paper. (Not to be offered 1946-47.)

Prerequisites: 40 hours of college credit of which at least 25 must be selected from: Office Organization and Management, Psychology, Economics, Public Relations (may be taken concurrently), Personnel Supervision, Fundamentals of Supervision, Modern Civilization.

Personnel Supervision

Methods and Costs (PS 12). Credit, 2½ semester hours.

A supervisor or foreman is responsible for methods and costs. Though the technical responsibility may lie with the methods and costs departments, the supervisor must get results through his personnel. This course treats not only the basic principles of work simplification and of the factors comprising cost, but considers the supervisor's problem of gaining personnel cooperation in the improvement of methods and the control of costs.

Fundamentals of Supervision (FS 13). Credit, 2½ semester hours.

There can be no denial of the need for sound and mutually satisfactory relations between management levels. The position of the foreman in labor relations is a knotty phase of the situation. The development of scientific management has created some line and staff conflict. Such problems are considered in this course. Beginning with a study of faults in organization, the course will continue with the conference determination of the responsibilities and authority of members of management at the supervisory level. It will consider factors in the selection and training of supervisors for leadership, the supervisor's working relations, and his facilities for consultation and communication, ending with the determination of guiding principles for supervisors as members of management.

Personnel Administration (PS 21-22). Credit, 5 semester hours.

The aim of this course is to provide a foundation in fundamental concepts and a general knowledge of techniques in the administration of personnel relations. Whether the student approaches the subject from the point of view of the line supervisor, staff or office man, or union leader, he should get from it an appreciation of common objectives in the determination and administration of personnel policy.

In the treatment of basic concepts the course will cover such subjects as the principles of personal adjustment, the social organization of business, motivation and incentives, employee attitudes and morale. Such techniques of personnel administration as interviewing, job analysis, appraisal and placement, training, merit rating, employee relations, and wage administration will be dealt with, not from the standpoint of training technicians in specific techniques, but to secure a breadth and depth in the approach to personnel problems.

Management-Labor Relations (PS 41). Credit, 2½ semester hours.

This course is designed to provide an understanding of the problems involved in management-labor relations through a study of background material and plant practices. It begins with a history of the labor movement; considers the intervention of government in labor relations, and explains the legal framework, current practices in negotiation, in contract clauses, in grievance procedures, and in the settlement of disputes are discussed. Using case studies and the conference method, the course is adjusted to the problems of the moment in management-labor relations, and when possible, guest speakers will contribute to a balanced point of view.

Personnel Seminar (PS 42). Credit, 2½ semester hours.

The seminar is design to accomplish two main objectives: (1) practice in conference leadership; (2) original and creative work which ties together the educational study in personnel supervision with the practical experience of the student. Carefully chosen problems, which vary from year to year, will be the subject matter of reports. Each member of the seminar will conduct a discussion of his problem.

Prerequisites: PS 21-22, PS 41.

Physics

Engineering Physics (Ph 11-12). Credit, 5 semester hours.

This is a basic course in physics for technical students with laboratory, lectures, and demonstrations. Particular attention is paid to the basic principles of physics including mechanics, motion, velocity, acceleration, electricity, heat, etc. The course also stresses use of the slide rule, applied mathematics and graphical methods of presentation and analysis. Designed to orient the student to the engineering profession, the course aims to develop the habit of using correct methods of thinking and analysis in the solution of engineering problems.

Prerequisite: M 11-12 to be presented as a prerequisite or taken concurrently.

Thermodynamics and Heat Power (Ph 31-32). Credit, 5 semester hours.

The principles of thermodynamics, energy and energy transformations, properties of media, availability of energy, typical processes and cycles, combustion processes, and flow of fluids are discussed in this course.

Prerequisites: Ph 11-12, M 21-22.

Psychology

Psychology (P 23-24). Credit, 5 semester hours.

This course is designed to give the student a general knowledge of the important principles of human behavior. Topics included are: motivation, emotion, learning, personality, intelligence, etc. The utilization of psychological knowledge in relation to everyday human activities will be emphasized.

Sales and Marketing

Principles of Selling (SM 11-12). Credit, 5 semester hours.

The purpose of this course is to present definite techniques and basic principles of selling. This will include the study of: prospect selection, knowledge of the product, pre-approach and approach, demonstration, meeting objections, close and departure. Desirable personality traits of the salesmen are considered. The organization of the Sales Department and its place in the whole business organization are studied. There is a treatment of basic principles of sales management including: selection of salesmen, sales training programs, and policies. Each student will have opportunities to demonstrate his ability to sell a given product by means of class demonstration.

Principles of Marketing (SM 21-22). Credit, 5 semester hours.

This course is a study of the business activities which deal with the distribution and flow of goods and services from producers and sellers to consumers and buyers. Study is made of the various agencies through which goods flow, such as retailer, wholesaler, broker, co-operative, department and chain store, and direct distributor. Marketing of farm products, raw materials, and industrial products are considered. Governmental control, transportation, financing, risk bearing, storage, and warehousing of commodities as they flow through various trade channels are treated. A study of competition and prices is included. (Not to be offered 1946-47.)

Prerequisite: SM 11-12.

Market Analysis (SM 31). Credit, 2½ semester hours.

This course is successive to Principles of Marketing. It will deal with techniques and methods of market analysis by considering basic types of analyses and their evaluation for a given condition. It will offer opportunity for studying methods of assembling data, tabulating and analyzing those data, and the application of results to the sales program and policy of the business or industry. (Not to be offered 1946-47.)

Prerequisites: Ec 33-34, SM 21-22.

Advertising (SM 32). Credit, 2½ semester hours.

The purpose of this course is to give the student of Sales and Marketing a basic fundamental knowledge of advertising. It will deal with the study of the general field of advertising, fundamentals of writing and display, selection of media, use of agencies, and direct advertising. (Not to be offered 1946-47.)

Prerequisites: P 23-24, SM 31.

Sales and Marketing Seminar (SM 41-42). Credit, 5 semester hours.

This course offers the opportunity for students in the field of Sales and Marketing to examine individual problems and interests. Reading, independent research, individual and group discussion, and conferences with the instructor and guest instructors will be the means whereby the student will assemble data. These data will then be formally presented by means of a written paper. (Not to be offered 1946-47.)

Prerequisites: 40 hours of college credit, of which at least 25 must be selected from Principles of Selling, Principles of Marketing, Market Analysis, Advertising, Economics, Psychology, Public Relations.

Science

Modern Science (Sc 11-12). Credit, 5 semester hours.

This course is designed to give the student a knowledge of the physical sciences and of scientific method. It is not a laboratory course, but will deal with primary source material. Its aim is to emphasize the use of the scientific approach to all problems, and at the same time, to enable the student to appreciate fully the impressive impact of science upon his life.

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**Curricula Leading to the
Associate in Science Degree**



Division of Business

Business Administration

Public Accounting

Industrial Accounting

Office Supervision and Management

Sales and Marketing

Division of Engineering

Electrical Power Engineering

Electrical Communication Engineering

Mechanical Design Engineering

Tool Design Engineering

Metallic Materials Engineering

Non-Metallic Materials Engineering

Plating Engineering

Division of Management

Personnel Supervision

Industrial Administration

Industrial Safety



